

## Solid Waste

### PROGRAM DESCRIPTION

The Division of Disposal and Resource Recovery and the Division of Collection and Recycling provide solid waste services for the County. Refuse collection and recycling services are available to all citizens of Fairfax County by either private contractors or County collection crews. Private contractors presently account for 87 percent of refuse collected. The remaining 13 percent are collected by County collection crews. The County also provides refuse collection services to all County agencies (except schools). Additionally, the County provides leaf collection services to participating neighborhoods. In order to provide the County with a long-term solution to refuse disposal, an Energy/Resource Recovery Facility was constructed at the site of the I-95 Landfill. This facility, which is privately owned and operated, began commercial operation on June 1, 1990, and has a design capacity of 3,000 tons per day (TPD).

#### LINK TO THE COMPREHENSIVE PLAN

Fairfax County's Comprehensive Plan has established a number of objectives and policies in order to:

- ✓ Provide conveniently located solid waste management facilities and operations, while ensuring these facilities are compatible with adjacent land uses.
- ✓ Provide an efficient, cost effective, and environmentally sound, comprehensive solid waste management system that meets the current and future needs of the County.
- ✓ Add facility enhancements at the I-66 Transfer Station and I-95 Landfill to allow environmentally sound and efficient collection, recycling, transfer, and disposal of refuse and recyclable materials.
- ✓ Maintain existing Recycling Drop-off Centers to serve residential and business customers.

Source: 2003 Edition of the Fairfax County Comprehensive Plan, as amended

### CURRENT PROGRAM INITIATIVES

Currently the County operates two permitted solid waste management facilities, the I-95 Sanitary Landfill and the I-66 Transfer Station, and developed the Energy/Resource Recovery Facility. All three facilities are operated under permits issued by the Virginia Department of Environmental Quality (VDEQ). The I-95 Landfill and the Energy/Resource Recovery Facility are located on land recently transferred from Federal Government ownership to County ownership.

The I-95 Landfill is the only sanitary landfill in the County and provides land disposal for ash originating in the County, the City of Alexandria, Arlington County, and the Cities and Towns of Fairfax, Falls Church, Vienna, Herndon, and Clifton.

The I-66 Transfer Station has been operational since 1983. Refuse deposited by collection vehicles is loaded into tractor-trailer trucks and transported 29 miles to the I-95 Energy/Resource Recovery Facility or other appropriate locations for disposal. Based upon growth, which occurred in the County, and changes in handling recycled products, the County completed an expansion of the station in 1997. The expansion added approximately 36,000 square feet of disposal area within 11 enclosed bays.

The total capital cost of the Energy/Resource Recovery Facility was \$195,000,000, which was financed through the sale of bonds and the owner's capital. The County authorized construction of a non-ferrous metal recovery system at the Energy/Resource Recovery Facility. These metals are "non-magnetic" and were not recovered from the original magnetic recovery system. Typical metals that are now recovered include copper, aluminum, and other non-magnetic metals. Covanta Fairfax, Inc. (CFI) constructed the system at no cost to the County, as the sale of the additional non-ferrous scrap would pay for the construction and operational costs of the additional equipment. CFI estimated that the capital costs for this system were approximately \$3 million. The non-ferrous metals recovery system became operational in October 1997. CFI has constructed additional air pollution control equipment at the Energy/Resource Recovery Facility to comply with provisions of the Clean Air Act. Mercury and nitrogen oxide removal systems are now operational. The capital cost for the air pollution systems was \$7.75 million, and was funded through bonds originally purchased for the facility and owner equity.

The County anticipates completing a new Solid Waste Management Plan, pursuant to new state requirements by mid 2004. The plan will review current procedures as well as analyze future waste disposal issues for Fairfax County.

## **CURRENT PROJECT DESCRIPTIONS**

1. **Transfer Station Expansion.** \$15,488,588 for the expansion of building and miscellaneous repairs to the old portion of the original transfer station building and other on-site needs.
2. **I-95 Landfill Liner Area 3.** \$34,877,000 for the ash containment flexible membrane liner. Phase I and Phase IIA funded at \$18,377,000, have been completed. The remaining \$16,500,000 is included for Phase IIB and Phase IIIA. The Phase III estimate is conservative, and will require further evaluation based on construction techniques available for synthetic membrane systems. Phase IV of the project is not covered during this planning period.
3. **I-95 Leachate Facility.** \$2,921,000 for a leachate pretreatment/treatment facility to process fluids collected from liner systems at the Landfill. This project is in the interim design stage, pending analysis of leachate characteristics.
4. **I-95 Landfill Road Construction.** \$1,642,000 for the various haul roads essential at the I-95 Landfill for truck traffic to access the Area 3 Lined Landfill, and final portions of the existing Municipal Solid Waste Landfill.
5. **I-95 Landfill Perimeter Fence.** \$1,274,645 for the construction of fencing enclosing the perimeter area of the I-95 Landfill and for various shop maintenance facilities. These projects are near completion.
6. **I-95 Paved Ditch Extension.** \$1,624,000 for drainage improvements for the intermediate slopes of the I-95 Landfill to control erosion. This work involves placing armored ditches on side slope areas and stormwater pipes at bench crossings.
7. **I-95 Landfill Closure.** \$66,266,579 to meet all state and federal regulations regarding the closure of the I-95 Landfill. This project will involve six individual phases. The CIP total includes four phases, which will close the existing municipal solid waste portion of the Landfill with a flexible membrane liner material to "seal" the Landfill from external sources. Two additional phases of closure will occur for the ash landfill unit, but are beyond the planning period. Phases I and II of Closure have been completed. Closure Plans have been submitted to VDEQ for approval of Phase III and IV closure. The closure of Phase III and IV will occur after VDEQ's approval.

8. **I-95 Landfill Methane Gas Recovery.** \$2,603,000 to capture methane gas generated from the I-95 Landfill by means of collection wells and pipes. The project is a multi-phase project. As an additional benefit, a portion of the recovered methane is being utilized to produce electricity at the Landfill, for sale to Dominion Power. A pipeline that runs between the I-95 Landfill and the Noman M. Cole, Jr. Pollution Control Plant to convey excess landfill gas to the treatment plant for use as a fuel, was completed during the summer of 1997.

**PROJECT COST SUMMARIES  
SOLID WASTE  
(\$000's)**

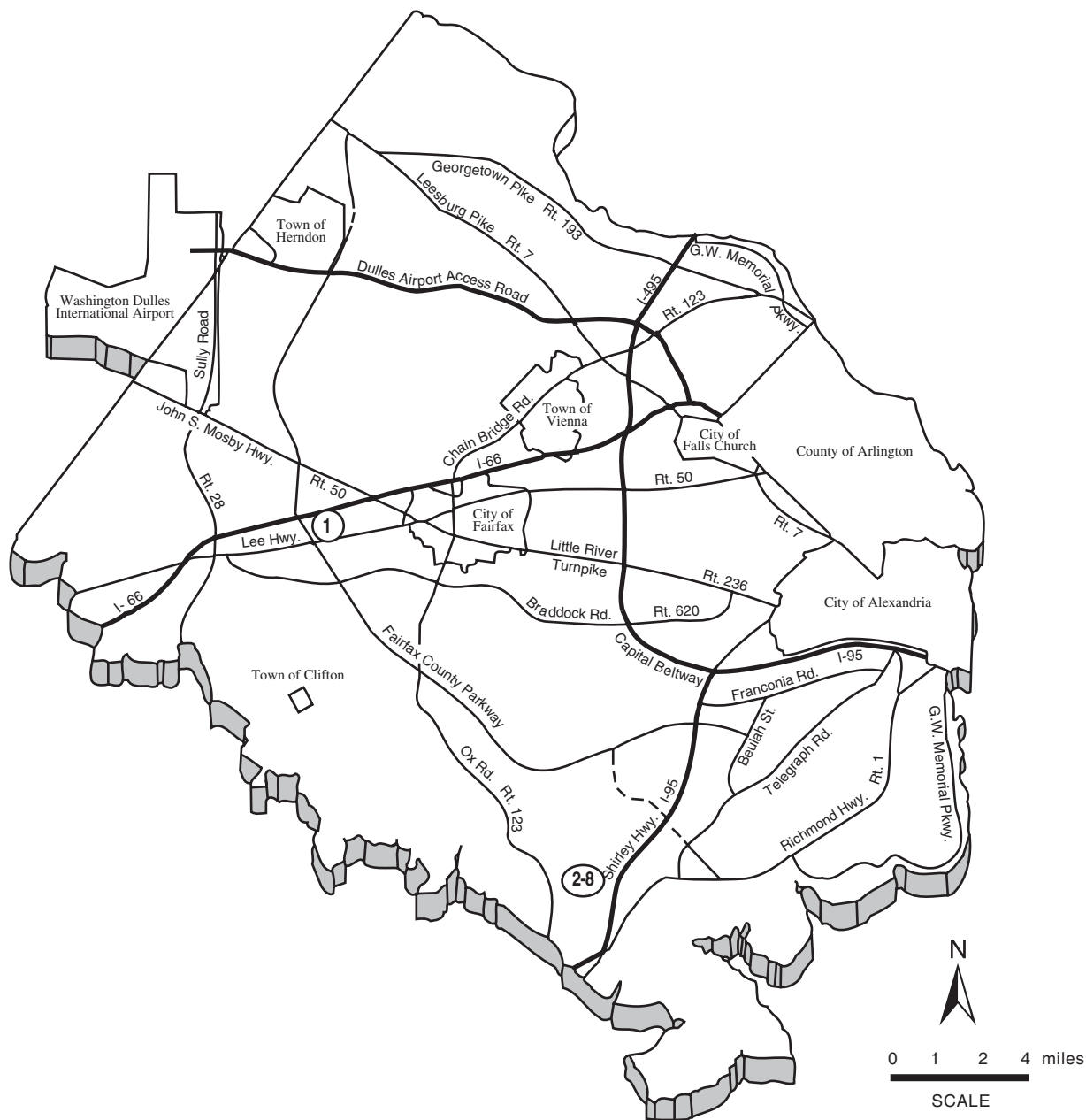
Project Title/ Project Number	Source of Funds	Anticipated to be Expended Thru FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Total FY2005-FY2009	Total FY2010-FY2014	Total Project Estimate
1. Transfer Station Expansion / 174002 through 174006	X	<b>14,689</b>			<b>800</b>			800		15,489
2. I-95 Landfill Liner Area 3 / 186435	X	<b>24,128</b>			<b>2,249</b>			2,249	8,500	34,877
3. I-95 Leachate Facility / 186440	X	<b>2,921</b>						0		2,921
4. I-95 Landfill Road Construction / 186450, 186460	X	<b>1,642</b>						0		1,642
5. I-95 Landfill Perimeter Fence / 186455, 186420	X	<b>1,275</b>						0		1,275
6. I-95 Paved Ditch Extension / 186470	X	<b>1,174</b>		<b>450</b>				450		1,624
7. I-95 Landfill Closure / 186650	X	<b>55,766</b>				<b>10,500</b>		10,500		66,266
8. I-95 Landfill Methane Gas Recovery / 186600	X	<b>2,603</b>						0		2,603
<b>TOTAL</b>		<b>\$104,198</b>	<b>\$0</b>	<b>\$450</b>	<b>\$3,049</b>	<b>\$10,500</b>	<b>\$0</b>	<b>\$13,999</b>	<b>\$8,500</b>	<b>\$126,697</b>

<b>Key: Stage of Development</b>	
	Feasibility Study or Design
	Land Acquisition
	Construction

<b>Notes:</b>	
Numbers in bold italics represent funded amounts.	

<b>Key: Source of Funds</b>	
B	Bonds
G	General Fund
S	State
F	Federal
X	Other
U	Undetermined

## Solid Waste Location of CIP Projects



1. I-66 Transfer Station Expansion
- 2-8. I-95 Landfill Projects

Note: Map numbers correspond to the project descriptions in the text and on the summary tables. Only CIP projects with selected fixed sites are shown on the map.